

Table 6. Summary of the Task Concentrations (f/cc) for Various Simulations Related to Vermiculite Attic Insulation

Test/Description	Study	Test	Job Title	PCM	PCME Amphibole	PCME Asbestos
Installation of Insulation						
Dry disturbance of Zonolite Brand Vermiculite; WRMI	Versar	1	unknown	overloaded	0	NA
Dry disturbance of Zonolite Brand Vermiculite; WRMI	Versar	1	unknown	overloaded	0.050	NA
Dry disturbance of Zonolite Vermiculite, Lot# 17K02-1	Versar	2	unknown	0.480	0.398	NA
Dry disturbance of Zonolite Vermiculite, Lot# 17K02-1	Versar	2	unknown	0.312	0.301	NA
Dry disturbance of Zonolite vermiculite, Lot# 6B03-2	Versar	3	unknown	overloaded	0.497	NA
Dry disturbance of Zonolite vermiculite, Lot# 6B03-2	Versar	3	unknown	overloaded	0.549	NA
Dry Disturbance of Zonolite Vermiculite, Lot#21111-2	Versar	4	unknown	0.537	1.463	NA
Dry Disturbance of Zonolite Vermiculite, Lot#21111-2	Versar	4	unknown	0.734	2.637	NA
Dry Disturbance of Zonolite Vermiculite, Lot#21111-2	Versar	5	unknown	0.148	0.150	NA
Dry disturbance of Zonolite Attic Insulation	Versar	5	unknown	0.187	0.301	NA
Dry disturbance of Zonolite Attic Insulation	Versar	5	unknown	0.050	0	NA
Dry Disturbance of Strong-Lite; Attic Insulation; Mica Flakes	Versar	6	unknown	0.061	0	NA
Dry Disturbance of Strong-Lite; Attic Insulation; Mica Flakes	Versar	1	unknown	0.181	0.093	NA
Installation of Vermiculite Attic Insulation	Versar	1	unknown	0.147	0	NA
General Labor/Cleaning						
cleaning	Ewing		Helper	1.620	0	0
cleaning	Ewing		Worker	0.500	0	0
Small Scale Removal						
Residential Activities in the attic	Versar	2	unknown	0.268	0.247	NA
Residential Activities in the attic	Versar	2	unknown	0.229	0.241	NA
Dry Disturbance - No cutting	Versar	1	unknown	1.195	0.200	NA
Dry Disturbance - No cutting	Versar	1	unknown	1.308	2.648	NA
Wet Disturbance -No Cutting	Versar	4	unknown	0.761	0.7	NA
Wet Disturbance -No Cutting	Versar	4	unknown	0.907	1.000	NA
Dry Disturbance - No cutting	Versar	1	unknown	1.841	0.207	NA
Dry Disturbance - No cutting	Versar	1	unknown	1.814	0.405	NA
Wet Disturbance - No cutting	Versar	2	unknown	0.803	0	NA
Wet Disturbance - No cutting	Versar	2	unknown	0.990	0	NA

Table 6. Summary of the Task Concentrations (f/cc) for Various Simulations Related to Vermiculite Attic Insulation, continued.

Test/Description	Study	Test	Job Title	PCM	PCME Amphibole	PCME Asbestos
Large Scale Removal						
removal - WRG	Ewing		Helper	3.200	0	0
removal - homeowner	Ewing		Helper	5.130	1.750	0.096
removal - Shop Vac	Ewing		Helper	2.900	0.220	0.072
removal - WRG	Ewing		Worker	12.560	4.480	0.520
removal - homeowner	Ewing		Worker	14.380	9.570	0.570
removal - Shop Vac	Ewing		Worker	3.050	0.670	0
Removal of Vermiculite Attic Insulation	Versar	3	unknown	0.131	0	NA
Removal of Vermiculite Attic Insulation	Versar	3	unknown	0.115	0.247	NA
Dry Vermiculite - Removal by Homeowner	Versar	7	unknown	0.528	0.400	NA
Dry Vermiculite - Removal by Homeowner	Versar	7	unknown	0.950	0	NA
Dry Vermiculite - Removal by Homeowner	Versar	5	unknown	0.609	0.301	NA
Dry Vermiculite - Removal by Homeowner	Versar	5	unknown	0.662	0	NA
Dry Vermiculite - Removal by Contractor	Versar	6	unknown	0.293	0	NA
Dry Vermiculite - Removal by Contractor	Versar	6	unknown	0.093	0	NA
Renovations						
ceiling penetration	Ewing		Helper	5.400	0.680	0.110
ceiling penetration	Ewing		Worker	5.760	0.540	0.050
S-3	US EPA		unknown	0.340	0.128	0.009
Dry disturbance - Hole cut in drywall from attic	Versar	2	unknown	0.931	0	NA
Dry disturbance - Hole cut in drywall from attic	Versar	2	unknown	0.855	0	NA
Dry Disturbance - Hole cut in drywall from living space	Versar	3	unknown	0.891	0.199	NA
Dry Disturbance - Hole cut in drywall from living space	Versar	3	unknown	1.092	0.200	NA
Wet Disturbance - Hole cut in drywall from attic	Versar	5	unknown	1.083	0.497	NA
Wet Disturbance - Hole cut in drywall from attic	Versar	5	unknown	0.928	0.199	NA
Wet Disturbance - Hole cut in drywall from living space	Versar	6	unknown	0.386	0	NA
Wet Disturbance - Hole cut in drywall from living space	Versar	6	unknown	0.462	0	NA
Dry Disturbance - Hole cut in plaster from attic	Versar	3	unknown	1.472	0	NA
Dry Disturbance - Hole cut in plaster from attic	Versar	3	unknown	0.709	0.101	NA

NA - not determined, data not available

Table 7. Dust Sample Concentrations (s/cm²) from Homes with Alleged Zonolite Attic Insulation. Concentrations include Claimants' Expert's reported values and values determined by RJ lee Group from produced analytical data. "NA" – data not produced.

Sample Locations	Reported	PCME Amphibole	PCME Asbestos
Walker Home			
Walk boards in attic	44,209	17,004	17,004
Wooden steps of attic access ladder	24,572	0	0
Mason Home (Libby)			
Floor attic apartment storage area	35,175	8,794	8,794
Floor attic apartment storage area	10,978	4,990	0
Spencer Home (Libby)			
Light dust from children's bedroom closet	430	430	0
Medium dust from child's game in closet	6,900	1,386	0
Heavy dust from shelf support in closet	18,600	13,922	0
Loehner Home			
Dust on attic floor near stair case	210,500	NA	NA
Dust from attic flooring in attic wing	14,900	NA	NA
Salisbury Home (Moscow, Idaho)			
Daughter's bedroom closet off cabinet glass door	40,273	20,137	0
Daughter's bedroom closet off the floor	6,653	1,663	0
Dust from carpet in office closet	5,618	2,247	0
Mathews Home: Spokane Washington			
Attic floor (ZAI perimeter only)	26,848	6,712	0
Carpet on attic floor (ZAI in perimeter only)	2,970	1,485	0
On wooden storage box in attic (ZAI in perimeter only)	0	0	0

Table 7. Dust Sample Concentrations (s/cm²) from Homes with Alleged Zonolite Attic Insulation. Concentrations include Claimants' Expert's reported values and values determined by RJ lee Group from produced analytical data. "NA" -- data not produced, continued.

Sample Locations	Reported	PCME Amphibole	PCME Asbestos
Home Silver Spring, MD			
South end of attic off walk boards	99,205	19,841	6,614
North Center from walk boards	34,215	4,888	0
Attic center from walk boards	96,633	22,473	2,247
South end of attic dust under vermiculite pile on walk boards	1,926,619	513,765	0
Barbanti Home (Spokane, WA)			
Dust from under vermiculite	50,300	10,068	0
Dillion Home			
Attic surfaces after home removal 1	1,000,000	NA	NA
Attic surfaces after home removal 2	798,400	NA	NA
Attic surfaces after home removal 3	162,200	NA	NA
Attic surfaces after home removal 4	48,800	NA	NA
Attic surfaces after home removal 5	34,800	NA	NA
Attic surfaces after home removal 6	111,000	NA	NA
MacCready Home			
Attic dust under ZAI 1	604,100	NA	NA
Attic dust under ZAI2	910,200	NA	NA
Busch home			
BD-01	50,789	50,789	0
BD-02	0	0	0
BD-3	205,636	109,672	0

Table 7. Dust Sample Concentrations (s/cm²) from Homes with Alleged Zonolite Attic Insulation. Concentrations include Claimants' Expert's reported values and values determined by RJ Lee Group from produced analytical data. "NA" – data not produced, continued.

Sample Locations	Reported	PCME Amphibole	PCME Asbestos
Mathews Home			
MD-1	6,742	6,742	0
MD-2	38,092	25,395	0
MD-3	0	0	0
MD-4	19,962	0	0
MD-5	0	0	0
MD-6	0	0	0
MD-7	0	0	0
MD-8	0	0	0
MD-9	0	0	0
MD-10	0	0	0
MD-11	674	674	0
MD-12	333	333	0
MD-13	0	0	0
MD-14	0	0	0
Price Home			
Garage above stairwell to basement	0	0	0
Garage off door mat	0	0	0
Kitchen off door mat to garage	0	0	0
Garage from intake for fireplace	0	0	0
Holbrook Home			
Attic off joist	302,038	100,679	100,679
Attic top of chest	0	0	0
Attic dust from hand railing around staircase	891	891	0

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Career/Employment:

- RJ Lee Group, Inc., President, 1986 - Present
- U. S. Steel Technical Center, Head - Physics, Electron Microscopy and Surface Analysis Section, 1973 - 1985
- Purdue University, Associate Professor, 1971
- Purdue University, Assistant Professor, 1970
- Lake Region Junior College, Instructor, 1966

Summary:

- Development and application of quantitative computer-controlled electron microscopy techniques;
- Pioneered the use of quantitative electron diffraction techniques for the identification of asbestos;
- Development of automated techniques for combined x-ray microanalysis and electron microscopy;
- Development of automated electron diffraction pattern analysis techniques and application to environmental problems, asbestos analysis, coal mineral characterization, and quantitative metallography.

Honors, Awards, Fellowships & Memberships:

- Microbeam Analysis Society
- ASM International
- ASTM Committee
- American Concrete Institute
- American Ceramic Society
- National Stone, Sand and Gravel Association
- International Standards Organization
- Health Effects Institute - Asbestos Research Literature Review Panel
- EPA Scientific Review Panel on Air Chemistry and Physics (1989)
- EPA Select Panel for Development of Methodology for Asbestos Analysis by Transmission Electron Microscopy (1987-Present)
- Advisor on asbestos analysis to the Environmental Protection Agency
- External Advisory Committee for the College of Natural Sciences, Colorado State University
- National Defense Education Act Fellowship - 4 years

Publications & Presentations: 171

Patents: 3

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Star Scientific vs. R.J. Reynolds Tobacco Company	United States District Court for the District of Maryland	AW-01 CV1504	3/17/2003	Deposition	Patent infringement
Illinois, State of, v Conwed Corporation			2/7/2003	Deposition	Asbestos - Ceiling tile
State of Illinois v. US Gypsum, et. al.	Circuit Court for the Seventh Judicial Circuit Sangamon County, Illinois	98-L-0061	2/7/2003	Deposition	Asbestos - Ceiling tile
Chambers	Circuit Court of Claiborne County, Mississippi	2001-20	1/20/2003	Deposition	Asbestos
Amchem Products (Newport News)	Circuit Court of the City of Newport News	CL99-2000	11/22/2002	Trial	Asbestos
United States of America vs. W.R. Grace & Company, W.R. Grace & Co. - Conn., and Kootenai Development Corporation	United States District Court for the District of Montana Missoula Division	Civ. No. 01-72-M-DWM	9/28/2002	Deposition	Asbestos
TA Instruments V. Perkin Elmer	United States District Court for the District of Delaware	95-545-SLR	9/27/2002	Trial	Patent infringement
Amchem Products	Circuit Court of Kanawha County, WV	02-C-9004	9/19/2002	Deposition Telephone	Asbestos
Arroyo Vista (aka Arroyo Oaks) aka Hendry, et al. v Fieldstone Company, et al.	Superior Court of the State of California County of Orange, Central Justice Center Annex	798881	8/2/2002	Deposition	Concrete failure

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Arroyo Vista (aka Arroyo Oaks) aka Hendry, et al. v Fieldstone Company, et al.	Superior Court of the State of California County of Orange, Central Justice Center Annex	798881	8/1/2002	Deposition	Concrete failure
MSHA Proposed Ruling 2002			6/20/2002	Hearing	Asbestos
McCarthy v. ACands, et al			6/12/2002	Deposition Telephone	Asbestos PI -- Paper Mill Felt
Robert Lee Bickham et al v. Metropolitan Life Insurance Co.		Case No. 70,760	1/24/2002	Deposition	Asbestos PI -- Paper Mill Felt
Delaware Trust			11/28/2001	Hearing	Asbestos buildings
Delaware Trust			11/27/2001	Hearing	Asbestos buildings
Delaware Trust			11/13/2001	Hearing	Asbestos buildings
Delaware Trust			11/12/2001	Hearing	Asbestos buildings
Mesa Vista South	Orange County Superior Court	Case No.: 802639	10/29/2001	Trial	Concrete failure
Delaware Trust			10/25/2001	Hearing	Asbestos buildings
Crown Ridge Development	Superior Court of the State of California County of Riverside	RIC 322638	10/15/2001	Deposition	Concrete failure

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Michigan Felt Testing	22nd Judicial District Court No. 70,760, c/w 72,154, c/w 72,986	RB-BIC-1585	9/28/2001	Oral and Video Deposition	Asbestos PI -- Product ID
Novo, Gabriel v AcandS	In the Circuit Court of Baltimore City	Case No.: 24X000000003	9/17/2001	Deposition	Asbestos - Personal Injury
Mesa Vista South	Orange County Superior Court	Case No.: 802639	8/22/2001	Deposition	Concrete failure
Prem v. Shea Homes (Melange)	Superior Court of the State of California for the County of San Diego	731815	8/3/2001	Deposition	Concrete failure
Prem v. Shea Homes (Melange)	Superior Court of the State of California for the County of San Diego	731815	8/2/2001	Deposition	Concrete failure
Labdon et al v Fieldstone et al	Superior Court of the State of California Orange County, Central Justice Center	No. 764896	6/21/2001	Deposition	Concrete failure
Mason City			6/1/2001	Deposition Telephone	Wallboard/joint compound
Gallington v. Union Pacific Railroad Company	In the Superior Court of state of California in and for the County of Kern	Cause No.: 240161 RJA	4/26/2001	Deposition	Personal Injury

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Floyd Douglas, Jr., et al vs. North American Refractories Company, et al (Adams v. North American Refractories Company (Brooke County, WV)	In the District Court of Orange County, Texas - 128th Judicial District	No. A-920, 961-SC(14)	4/16/2001	Deposition Telephone	Asbestos PI -- Product ID
Flexitallic Gasket Testing (Roth Matter)	In the District Court of Jefferson Co., Texas 58th Judicial District	Cause No. A-161, 748	4/16/2001	Deposition	Asbestos PI -- Gaskets
Baumbauer v Cunningham-Barisic Development Corp. (AKA Village Oaks AKA Palisades at Village Oaks)	Superior Court of the State of California for The County of San Bernardino	RCV-35753	3/8/2001	Deposition	Concrete failure
Herman Wells, et al vs. United States Gypsum Company, et al (Flexitallic Gasket Testing)	In the District Court of Jefferson County, Texas	Cause No. A-161, 748	2/7/2001	Trial	Asbestos PI -- Gaskets
Hoffman, Barbara et al. vs. USX Corporation, et al.	United States District Court Northern District of Georgia - Atlanta Division	1:98-CV-745-TWT	12/13/2000	Trial	Asbestos PI -- Transport exposure
Barbanti v. W.R. Grace Company (WRG)	Superior Court of the State of Washington for Spokane County	No. 00201756-6	11/30/2000	Hearing	Asbestos PI -- Class Action
Hoffman, Barbara et al. vs. USX Corporation, et al.	In The United States District Court for The Northern District of Georgia Atlanta Division	98-CV-745-TWT	11/21/2000	Deposition	Asbestos PI -- Transport exposure

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Barbanti v. W.R. Grace Company (WRG)	Superior Court of the State of Washington for Spokane County	No. 00201756-6	10/23/2000	Deposition	Asbestos PI -- Class Action
Barbanti v. W.R. Grace Company (WRG)	Superior Court of the State of Washington for Spokane County	No. 00201756-6	10/17/2000	Deposition	Asbestos PI -- Class Action
Port Authority of New York and New Jersey et al v. Affiliated FM Insurance Co., et al	In the United States District Court for the District of New Jersey	Civil Action No. 91-2907	8/8/2000	Deposition	Asbestos buildings
Port Authority of New York and New Jersey et al v. Affiliated FM Insurance Co., et al	In the United States District Court for the District of New Jersey	Civil Action No. 91-2907	8/7/2000	Deposition	Asbestos buildings
Rhonda K. Lane vs. Flexitallic Gasket Company and Crane Packing	In the Court of Common Pleas First Judicial District of Pennsylvania Trial Division	No. 1847	7/28/2000	Trial	Asbestos PI -- Gaskets
Kerner vs. Rancho Cielo Associates	Orange County Superior Court	Lead Case No. 772079 - consolidated with various other case numbers	7/21/2000	Deposition	Concrete failure
Kerner vs. Rancho Cielo Associates	Orange County Superior Court	Lead Case No. 772079 - consolidated with various other case numbers	7/20/2000	Deposition	Concrete failure
Kerner vs. Rancho Cielo Associates	Orange County Superior Court	Lead Case No. 772079 - consolidated with various other case numbers	6/20/2000	Deposition	Concrete failure

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Kerner vs. Rancho Cielo Associates	Orange County Superior Court	Lead Case No. 772079 - consolidated with various other case numbers	6/19/2000	Deposition	Concrete failure
Allstate Insurance Company adv. Walter and Barbara Morosco			6/9/2000	Trial	Asbestos buildings
Siman, et al. v. The Fieldstone Company (Cantobrio)	Orange County Superior Court	Case No. 778957	5/22/2000	Trial	Concrete failure
Siman, et al. v. The Fieldstone Company (Cantobrio)	Orange County Superior Court	Case No. 778957	5/18/2000	Trial	Concrete failure
Brayton Group 172 / Brayton Group 178 / Brayton Group 183 vs. Asbestos Defendants (Paul Duran) / (Jack Reed) - Flexitallic Gasket Testing	In The Superior Court of The State of California in and for the City and County of San Francisco	No. 307521	5/8/2000	Deposition Telephone	Asbestos PI -- Gaskets
Jack and Mary Reed vs. Flexitallic, Inc. (Flexitallic Gasket Testing)	Superior Court of California City and County of San Francisco	309045	5/5/2000	Deposition Telephone	Asbestos PI -- Gaskets
Titmus Optical v. William T. Curd, Jr. et al. (ReUse Technologies)	In the Circuit Court of the City of Richmond John Marshall Courts Building	File No.: LE-2744	5/4/2000	Deposition	Structural Fill
Flexitallic Gasket Testing (James Leroy Amason Case vs. Allied Signal, Inc.)	In the Circuit Court for the Tenth Judicial Circuit - Jefferson County, Alabama	No. CV98-04124-AEH	4/19/2000	Deposition	Asbestos PI -- Gaskets

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Mark Lewis and Shirley Hackett vs. Raybestos-Manhattan, Inc., et al. (Flexitallic Gasket Testing)	In the Superior Court of the State of California in and for the City and County of San Francisco	No. 306744	3/20/2000	Deposition Telephone	Asbestos PI -- Gaskets
Earlon Joseph Nunez, et ux v. Owens Corning Corporation et al (Flexitallic Gasket Testing)	In The Civil District Court of the Fifteenth Judicial District in and For the Parish of Vermilion State of Louisiana	Civil Docket No. 70432	3/1/2000	Trial	Asbestos PI -- Gaskets
Vern Parent v. Raybestos - Manhattan, Inc., et al. (Flexitallic Gasket Testing)	In the Superior Court of the State of California in and for the County of Alameda	No. 305994	2/28/2000	Deposition Telephone	Asbestos PI -- Gaskets
Cecil Martin & Paul Borre vs. Asbestos Defendants (BHC) - Flexitallic Gasket Testing	In the Superior Court of the State of California in and for the City and County of San Francisco	No. 305398 No. 302857	2/16/2000	Deposition	Asbestos PI -- Gaskets
Vern Parent v. Raybestos - Manhattan, Inc., et al. (Flexitallic Gasket Testing)	In the Superior Court of the State of California in and for the County of Alameda	No. 305994	2/16/2000	Deposition Telephone	Asbestos PI -- Gaskets
Robert V. Rugani and Louis Rugani v. A.P. Green Industries, Inc. et al - Flexitallic Gasket Testing	Superior Court in the State of California for the County of San Francisco	No. 302355	2/7/2000	Deposition Telephone	Asbestos PI -- Gaskets
BHC # 166 / Brayton Group 166 v. Asbestos Defendants (BHC) - Flexitallic Gasket Testing	In the Superior Court of the State of California in and for the County of San Francisco	No. 972095	2/7/2000	Deposition Telephone	Asbestos PI -- Gaskets

<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Hanson, Lynn v. USG	Circuit Court of the State of Oregon for the County of Multnomah	9907-07883	2/3/2000	Deposition Telephone	Asbestos PI --- Product ID
Blattner, et al., v. Pacific Scene, Inc. et al. (a.k.a. Carriage Hills)	Superior Court of the State of California for the County of San Bernardino	RCV 022194	10/26/1999	Deposition	Concrete failure
Sheldon H. Solow and Solow Development Corporation v. W. R. Grace & Company	Supreme Court of the State of New York County of New York	2453-88	10/12/1999	Trial	Asbestos buildings
Sheldon H. Solow and Solow Development Corporation v. W. R. Grace & Company	Supreme Court of the State of New York County of New York	2453-88	8/30/1999	Deposition	Asbestos buildings
Peters v. Brighton-Brannon Yorba Linda Associates, et al.	Superior Court of the State of California for the County of Orange	Case No. 76 51 77	8/26/1999	Trial	Concrete failure
Peters v. Brighton-Brannon Yorba Linda Associates, et al.	Superior Court of the State of California for the County of Orange	Case No. 76 51 77	8/25/1999	Trial	Concrete failure
Peters v. Brighton-Brannon Yorba Linda Associates, et al.	Superior Court of the State of California for the County of Orange	Case No. 76 51 77	8/24/1999	Trial	Concrete failure
Peters v. Brighton-Brannon Yorba Linda Associates, et al.	Superior Court of the State of California for the County of Orange	Case No. 76 51 77	8/23/1999	Trial	Concrete failure

<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Eaton Corporation vs. Minerals Technologies Inc. and Specialty Minerals, Inc.	United States District Court for the Western District of Michigan Northern Division	4: 96-CV-162	7/21/1999	Deposition	Product liability -- Mechanical parts
Eaton Corporation vs. Minerals Technologies Inc. and Specialty Minerals, Inc.	United States District Court for the Western District of Michigan Northern Division	4: 96-CV-162	7/8/1999	Deposition	Product liability -- Mechanical parts
Eaton Corporation vs. Minerals Technologies Inc. and Specialty Minerals, Inc.	United States District Court for the Western District of Michigan Northern Division	4: 96-CV-162	6/28/1999	Deposition	Product liability -- Mechanical parts
State of Hawaii v. U.S. Gypsum	In the Circuit Court of the First Circuit State of Hawaii	GD 93-4161-10	4/22/1999	Deposition	Asbestos buildings
State of Hawaii v. U.S. Gypsum	In the Circuit Court of the First Circuit State of Hawaii	GD 93-4161-10	4/21/1999	Deposition	Asbestos buildings
Siman, et al. v. The Fieldstone Company (Cantobrio)	Orange County Superior Court	Case No. 778957	3/17/1999	Deposition	Concrete failure
Siman, et al. v. The Fieldstone Company (Cantobrio)	Orange County Superior Court	Case No. 778957	3/16/1999	Deposition	Concrete failure
Mary Lou Graham, et al., v. Scapa. et al.	In the Superior Court of the State of Washington in and For King County	96-2-10536-8SEA	3/11/1999	Trial	Asbestos PI -- Paper Mill Felt

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Robert Lee Bickham et al v. Metropolitan Life Insurance Co.	Twenty - Second Judicial District Court Parish of Washington State of Louisiana - Judge Thomas W. Tanner	Case No. 70,760	2/25/1999	Trial	Asbestos Pl -- Paper Mill Felt
State of Hawaii v. U.S. Gypsum	In the Circuit Court of the First Circuit State of Hawaii	GD 93-4161-10	2/23/1999	Deposition	Asbestos buildings
State of Hawaii v. U.S. Gypsum	In the Circuit Court of the First Circuit State of Hawaii	GD 93-4161-10	2/22/1999	Deposition	Asbestos buildings
Fisher, et al. v. Glendale Federal, et al.	Superior Court of the State of California for the County of Orange County	757160	2/3/1999	Deposition	Concrete failure
Fisher, et al. v. Glendale Federal, et al.	Superior Court of the State of California for the County of Orange County	757160	2/2/1999	Deposition	Concrete failure
State of Hawaii v. W.R. Grace	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GC 93-4161-10	11/12/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GC 93-4161-10	11/11/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GC 93-4161-10	11/10/1998	Deposition	Asbestos buildings

<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Peters v. Brighton-Brannon Yorba Linda Associates, et al.	Superior Court of the State of California for the County of Orange	Case No. 76 51 77	10/21/1998	Deposition	Concrete failure
Peters v. Brighton-Brannon Yorba Linda Associates, et al.	Superior Court of the State of California for the County of Orange	Case No. 76 51 77	10/20/1998	Deposition	Concrete failure
Peters v. Brighton-Brannon Yorba Linda Associates, et al.	Superior Court of the State of California for the County of Orange	Case No. 76 51 77	10/19/1998	Deposition	Concrete failure
State of Hawaii v. W.R. Grace	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GC 93-4161-10	10/15/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GC 93-4161-10	10/14/1998	Deposition	Asbestos buildings
Cavitt v. Alcoa	District Court of Milam County, Texas 20th Judicial District	25492	10/12/1998	Deposition	Asbestos PI -- Transport exposure
Rich Products Corporation v. Flovor International, Ltd., Advanced Industrial Design, Inc., and Kemutec, Inc., v. Production Machinery Co. PTY. Ltd	District Court for the Eastern District of Wisconsin	95-C-968	9/10/1998	Deposition	Product liability -- Food product conveyor

<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	8/20/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	8/19/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	8/18/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	8/12/1998	Hearing	Asbestos buildings
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	7/28/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	7/27/1998	Deposition	Asbestos buildings
Mesa Vista North v. Glenfed, et al.	Superior Court of the State of California For the County of Orange	754939	7/2/1998	Deposition	Concrete failure
Mesa Vista North v. Glenfed, et al.	Superior Court of the State of California For the County of Orange	754939	7/1/1998	Deposition	Concrete failure

<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	6/25/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	6/24/1998	Deposition	Asbestos buildings
State of Hawaii v. W.R. Grace & Co. - Conn.	In the Circuit Court of the First Circuit State of Hawaii Civil Division	GD 93-4161-10	6/23/1998	Deposition	Asbestos buildings
Baskins/Abadia v. J.M. Peters Company	Superior Court of the State of California for the County of Orange	773301 (Consolidated with case no. 766627)	5/22/1998	Deposition	Concrete failure
Baskins/Abadia v. J.M. Peters Company	Superior Court of the State of California for the County of Orange	773301 (Consolidated with case no. 766627)	5/21/1998	Deposition	Concrete failure
Baskins/Abadia v. J.M. Peters Company	Superior Court of the State of California for the County of Orange	773301 (Consolidated with case no. 766627)	5/20/1998	Deposition	Concrete failure
Ohio Hospitals v. Armstrong World Industries	Court of Common Pleas of Cuyohoga County, Ohio	187471	4/27/1998	Deposition	Asbestos buildings
Ohio Hospitals v. Armstrong World Industries	Court of Common Pleas of Cuyohoga County, Ohio	187471	4/27/1998	Deposition	Asbestos buildings

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<u>Case Name</u>	<u>Court</u>	<u>Case Number</u>	<u>Testimony Date</u>	<u>Testimony</u>	<u>Case type</u>
Ohio Hospitals v. Armstrong World Industries	Court of Common Pleas of Cuyohoga County, Ohio	187471	4/27/1998	Deposition	Asbestos buildings
Baskins/Abadia v. J.M. Peters Company	Superior Court of the State of California for the County of Orange	773301 (Consolidated with case no. 766627)	4/16/1998	Deposition	Concrete failure
Baskins/Abadia v. J.M. Peters Company	Superior Court of the State of California for the County of Orange	773301 (Consolidated with case no. 766627)	4/15/1998	Deposition	Concrete failure
John M. Murphy, Diane C. Murphy, et al. vs. First Southwest Diversified Partners, a California general partnership, et al.,	Superior Court of the State of California for the County of Orange	752593 Consolidated with Case No.755126 & Case No. 755716	2/26/1998	Deposition	Concrete failure
Mesa Vista North Townhomes Owners Association, vs. Glendale Federal Bank, formerly Glendale Federal Savings & Loan, etc. , et al.,	Superior Court of the State of California For the County of Orange	754939	2/25/1998	Deposition	Concrete failure
Mesa Vista North Townhomes Owners Association, vs. Glendale Federal Bank, formerly Glendale Federal Savings & Loan, etc. , et al.,	Superior Court of the State of California For the County of Orange	754939	2/24/1998	Deposition	Concrete failure
John M. Murphy, Diane C. Murphy, et al. vs. First Southwest Diversified Partners, a California general partnership, et al.,	Superior Court of the State of California for the County of Orange	75 25 93 Consolidated with Case No.75 51 26 & Case No. 75,57,16	2/4/1998	Deposition	Concrete failure

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John M. Murphy, Diane C. Murphy, et al. vs. First Southwest Diversified Partners, a California general partnership, et al.,	Superior Court of the State of California for the County of Orange	75 25 93 Consolidated with Case No. 75 51 26 & Case No. 75,57,16	2/3/1998	Deposition	Concrete failure
John M. Murphy, Diane C. Murphy, et al. vs. First Southwest Diversified Partners, a California general partnership, et al.,	Superior Court of the State of California for the County of Orange	75 25 93 Consolidated with Case No. 75 51 26 & Case No. 75,57,16	2/2/1998	Deposition	Concrete failure
Mesa Vista North Townhomes Owners Association, vs. Glendale Federal Bank, formerly Glendale Federal Savings & Loan, etc., et al.,	Superior Court of the State of California For the County of Orange	754939	1/28/1998	Deposition	Concrete failure
Mesa Vista North Townhomes Owners Association vs. Glendale Federal Bank, formerly Glendale Federal Savings & Loan, etc., et al.,	Superior Court of the State of California For the County of Orange	754939	1/27/1998	Deposition	Concrete failure
TA Instruments v. Perkin-Elmer	United States District Court for the District of Delaware	95-545	1/12/1998	Pretrial Motions	Patent infringement

EXHIBIT H

IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE

In re:)	Chapter 11
)	
W.R. GRACE & CO., <u>et al.</u> ,)	Case No. 01-01139 (JKF)
)	(Jointly Administered)
Debtors.)	

RULE 26 DISCLOSURE REGARDING DR. WILLIAM G. HUGHSON

Rule 26 information regarding the subject matter on which Dr. William G. Hughson, M.D., Ph.D. is expected to testify at trial is as follows:

1. Dr. Hughson is a pulmonologist and epidemiologist and graduated from the Faculty of Medicine of the University of Calgary in 1973. He is a Rhodes Scholar and received a Doctor of Philosophy Degree from Oxford University. He is Board Certified in both internal medicine and pulmonary medicine by the American College of Physicians, and Board Certified in occupational medicine by the American Board of Preventive Medicine. He is Director of the Center for Occupational & Environmental Medicine at the University of California, San Diego. He has been a Qualified Medical Evaluator for the Industrial Medical Council for the State of California. He is a Clinical Professor of Medicine at the University of California, San Diego ("UCSD"). He is a member of numerous professional organizations, including the American College of Chest Physicians, the American College of Physicians, the American Thoracic Society and the Royal College of Physicians and Surgeons of Canada. He is a member of the California Medical Association's Scientific Advisory Panel on Occupational Medicine. He is a member of the Environmental and Occupational Health Committee of the American Lung Association of California, and he is a member of the American College of Chest Physicians' Section on Occupational Environmental Health. Dr. Hughson's curriculum vitae is attached as Exhibit A.

2. Dr. Hughson has extensive experience in the evaluation of patients with occupational lung diseases. For example, he began an asbestos screening program at the National Steel and Shipbuilding Company in 1981, and has performed approximately 1000 evaluations of those workers. During the course of his clinical practice at UCSD, Dr. Hughson has been involved in the diagnosis and management of asbestos-related conditions including pleural plaques, asbestosis, asbestos-related lung cancer, and mesothelioma.

3. The subject matter and opinions that may be expressed in the testimony Dr. Hughson expects to give in this case are identified below.

4. Dr. Hughson anticipates that he will testify concerning the causes and diagnoses of diseases related to exposure to asbestos. He will describe the body's ability to defend itself against airborne particulates, focusing particularly on asbestos. He will testify concerning the physical properties of asbestos and the size limitations that prevent most airborne asbestos fibers from entering the lung. He may also testify concerning the cause and effect factors relating to asbestos exposure and disease, including dose, fiber type, and fiber size. He may testify about animal studies and epidemiology relating to asbestos exposure and disease and the utility thereof. He may explain the principles of epidemiology and what an epidemiologist looks for in studies. He will discuss thresholds for asbestos disease and medical evidence regarding exposure levels and incidence of asbestos-related disease and the causes thereof.

5. There is general agreement in the medical and scientific literature that the risk of developing an asbestos-related disease is related to the amount of asbestos exposure. Furthermore, the severity of disease and the risk of its progression is also dose-related. Agencies of the U.S. Government, including USEPA, OSHA, etc. have utilized a linear no-threshold model for health risks due to asbestos exposure. Using that model, any exposure would cause an increase in risk compared with no exposure, and the risk of developing an asbestos-related disease increases in a linear manner in proportion to the dose. There is substantial evidence in the medical

literature, however, that the linear no-threshold model is not correct, and that substantial amounts of asbestos are tolerated in human beings with no evidence of adverse health effects. For example, residents in the Quebec asbestos mining areas have been exposed to elevated levels of chrysotile and tremolite asbestos for most of the last century. Despite lifetime exposures to elevated ambient levels of asbestos, and decades of study by researchers interested in the health effects of asbestos exposure, there is no evidence of an increased risk of asbestos related diseases in those people.

6. Dr. Hughson will testify that simply by virtue of containing asbestos, asbestos-containing building materials do not pose a health risk. It is only when respirable asbestos fibers are somehow released from asbestos-containing building material in sufficient quantities over a sufficient period of time that there arises a potential health risk. Not every exposure to asbestos results in disease. Whether a person is at increased risk from exposure to asbestos, including exposures from asbestos-containing materials in buildings, depends on the level of exposure (dose), the type of asbestos fibers, and the size of the fibers. There are levels of asbestos exposure below which disease has not been shown to occur. This is true for asbestosis, lung cancer, and mesothelioma.

7. It is Dr. Hughson's opinion that there is no epidemiological evidence linking non-occupational exposure to asbestos-containing materials in buildings with asbestos-related disease. He has not seen any cases of asbestos-related disease caused by non-occupational exposures from buildings in his clinical practice. More specifically, there are no peer reviewed epidemiological studies linking exposure to Zonolite Attic Insulation with any asbestos-related disease. In addition, studies at Libby, Montana by the United States Agency for Toxic Substances and Disease Registry ("ATSDR") provide no evidence that living in a home containing Zonolite Attic Insulation is associated with an elevated risk of any asbestos-related disease.

8. Dr. Hughson may testify that he has never diagnosed or heard of a case of clinical asbestosis developing from even prolonged exposure to asbestos at concentrations of less than several fibers per cubic centimeter of air. Asbestosis is associated with very high cumulative levels of asbestos exposure that historically occurred almost exclusively in an occupational environment. The incidence of asbestosis has declined remarkably in recent years as a result of exposure level restrictions in the workplace.

9. Dr. Hughson may also testify that all people living in urban areas have many asbestos fibers in their lungs simply by virtue of living and breathing in the environment. However, there is no evidence that consistently breathing ubiquitous environmental levels of asbestos over an entire lifetime causes any increased incidence of asbestos-related disease.

10. Dr. Hughson may further testify that asbestos-related lung cancer is almost invariably associated with significant past occupational exposure to asbestos and rarely, if ever, occurs absent a history of smoking. Further, it is Dr. Hughson's opinion that asbestos does not cause an increased risk of lung cancer unless clinical or pathological asbestosis is present. He may testify concerning the development of mesothelioma, and that not all mesotheliomas are caused by asbestos. In order to contract asbestos-related mesothelioma, an individual must have a significant cumulative lifetime exposure to asbestos.

11. Dr. Hughson may comment on certain published studies, simulations and articles.

12. Dr. Hughson's testimony will be based upon his review and knowledge of the medical literature from a number of relevant disciplines together with his own education and work experience.

13. He has not otherwise produced a report for this case. If available as to particular buildings, Dr. Hughson would examine documents and/or materials, including air and bulk sampling reports.

14. If the medical condition of any person is put at issue in this case, Dr. Hughson will review any available information relating to such person and comment on issues of causation and/or the incidence of asbestos-related health effects in relevant populations. Dr. Hughson will opine on the role, such as it is, played by anecdotal cases of disease in medical science, especially in epidemiology. If, as is indicated in Dr. Anderson's report, Dr. Anderson opines on the Harashe and Kordus cases, Dr. Hughson will opine on those cases as well.

15. Dr. Hughson may testify that variability and rating subjectivity are two interrelated problems with ILO scores. These problems include variability by different readers (inter-observer variability) and even by the same reader at different times (intra-observer variability). The variability problem is particularly pronounced when an ILO reading is at the lower end of the classification scale. For these reasons, it is Dr. Hughson's opinion that ILO readings should be confirmed by at least two independent and qualified readers before being considered reliable.

16. Dr. Hughson may testify that pulmonary function tests are the best tool to determine whether an asbestos claimant has a physical impairment due to asbestos. It is his opinion that such tests are reliable only if performed accurately, and they are particularly subject to manipulation. For this reason, the American Thoracic Society has issued comprehensive standards governing pulmonary function tests. Inaccurate or poorly performed tests can result in improper diagnosis. These tests need to be scrutinized even more closely in the litigation context because proper performance of the tests requires full patient effort and cooperation. Qualified experts with experience in performing and interpreting such tests can review existing tests to determine whether they were conducted properly. Finally, Dr. Hughson's opinion is that the